

SFK 56 (Aqua³)

Submittal

The SFK 56, named Aqua³, is a premix gas-fired condensing hot water heater approved for space heating and complies with ANSI Z21.10.3

- CSA 4.3 Gas-fired water heaters. The Aqua³, is equipped with a Flow-tech® stainless steel heat exchanger that consists of a single tube coil with a diameter of 28 mm. This larger coil tube reduces the pressure drop across the heat exchanger, and prevents debris/limestone deposits and makes it much easier on maintenance. The Aqua³ features a 1:10 air/gas modulation which is important for energy savings and important in providing a wide range of desired flow rates and temperatures.

MAIN FEATURES

ANTI-FREEZE FUNCTION PROTECTION

OUTDOOR RESET

WIDE MODULATING RANGE

LOW NOX EMISSIONS

PRE-WIRED ELECTRICAL LEAD

FULL GAS/AIR MODULATION

SOLAR CARD CONTROL (OPTIONAL)

TIME AND TEMPERATURE CONTROLLERS (OPTIONAL)



TECHNICAL FEATURES

MODEL	SFK 56	
Maximum Input	btu/h - (kW)	187,667 (55)
Minimum Input	btu/h - (kW)	18,766 (5.5)
Adjustable Temperature Range	°F - C°	86-167/ 77-113 (30-75/ 25-45)
Maximum Operating Pressure	psi - (bar)	150 - (10.34)
Energy Factor	%	97
Continuous Hot Water Flow Rates: Δt 54°F (30°C)	US gpm - (litres/min)	7.08 - (26.8)
Continuous Hot Water Flow Rates: Δt 77°F (43°C)	US gpm - (litres/min)	5.1 - (19.3)
Width	in - (mm)	16.14 - (410)
Depth	in - (mm)	19.09 - (485)
Height	in - (mm)	25.19 - (640)
Gross Weight	lb - (Kg)	110 - (50)
Electric Consumption - Normal	W	180
Electric Consumption - Standby	W	3.5

WARRANTY HEAT EXCHANGER: 12 YEARS;

WARRANTY COMPONENTS: 2 YEARS.

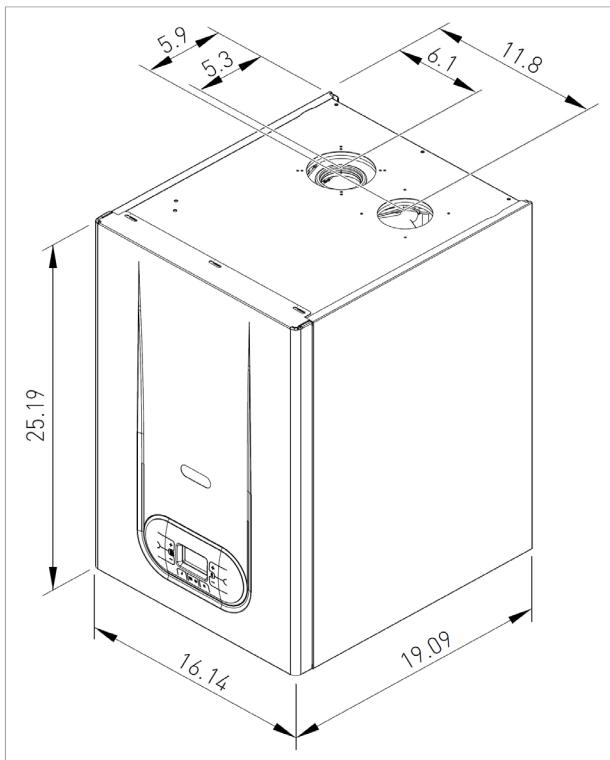
PROJECT NO.:	REPRESENTATIVE:
NAME:	DATE:
LOCATION:	
SPECIFIER:	APPROVED BY:
CONTRACTOR:	DATE:





1. SFK 56 SUBMITTAL

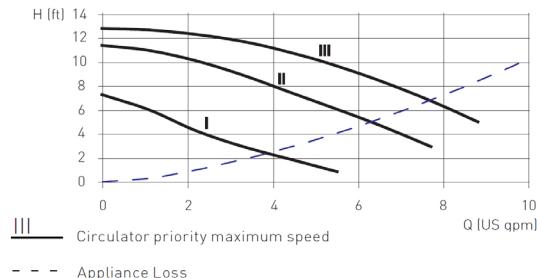
OVERALL DIMENSIONS (INCH)



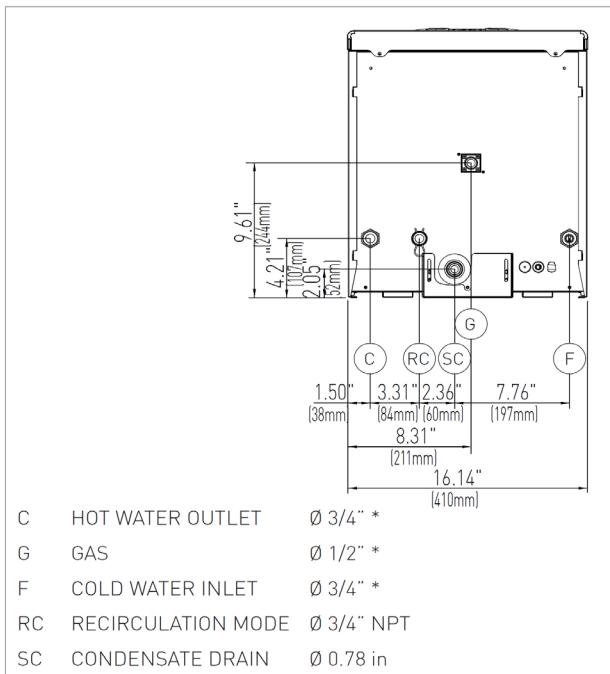
TYPES OF EXHAUST SYSTEMS

- COLLINEAR VENT, CO-AXIAL VENT AND SINGLE VENT.
- PVC, CPVC AND POLYPROPYLENE FOR SIZES 2", 3" AND 4" DIAMETERS.
- FOR CANADA USE GAS VENTING SYSTEMS CERTIFIED TO ULC S636.

RECIRCULATION MODE CIRCULATOR PREVALENCE/FLOW DIAGRAM

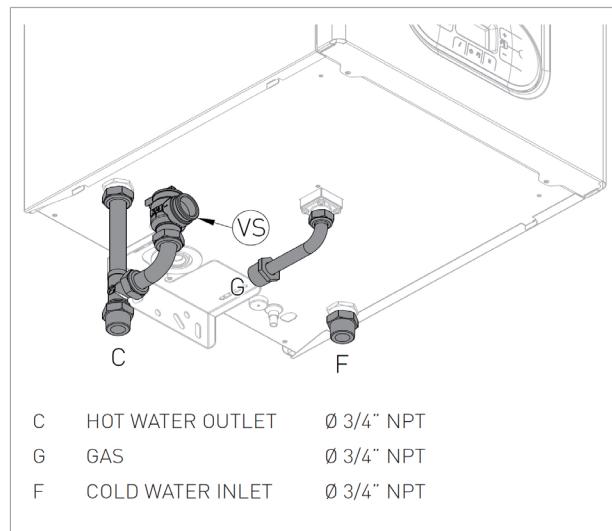


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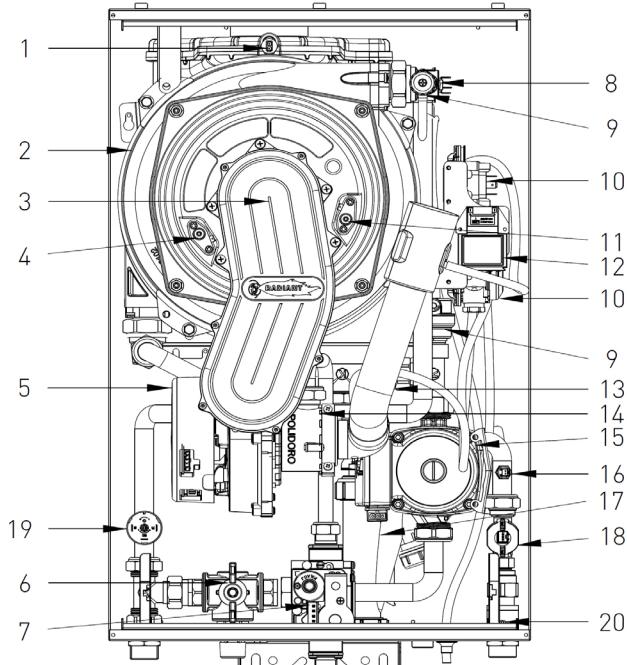
HYDRAULIC CONNECTION KIT

An hydraulic kit equipped with hydraulic connections and safety valve (see 'VS') is supplied by RADIANT.



(*) NOTE: THESE ARE CONNECTION SIZES BEFORE VALVE KIT/CONNECTION CONVERSION KIT IS INSTALLED.

TECHNICAL ASSEMBLY



KEY

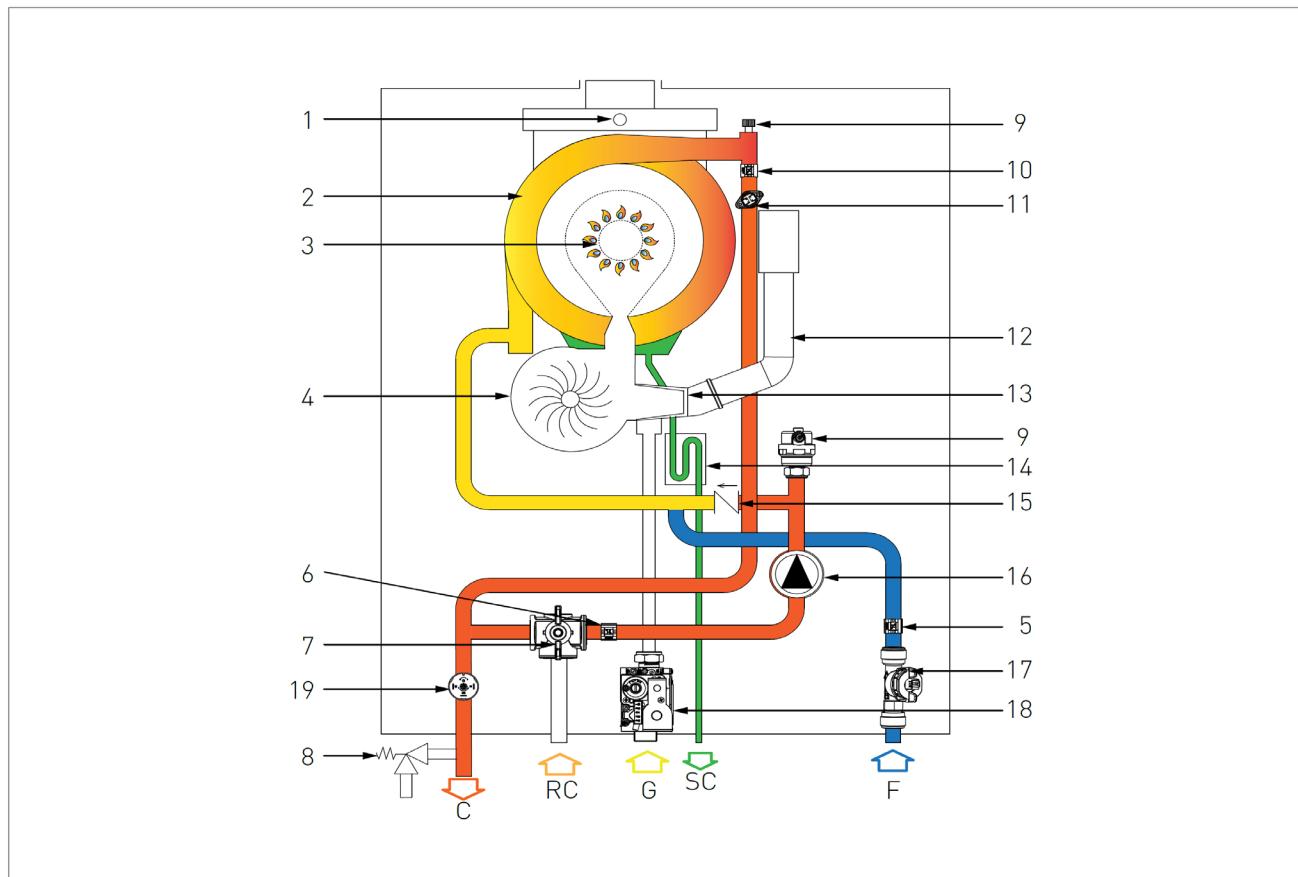
1. EXHAUST SAFETY HIGH LIMIT SWITCH
2. HEAT EXCHANGER
3. BURNER UNIT
4. IONIZATION ELECTRODE
5. COMBUSTION BLOWER
6. 3-WAY VALVE - RECIRCULATION MODE
7. GAS VALVE
8. WATER TEMPERATURE HIGH LIMIT SWITCH
9. AIR ELIMINATOR
10. AIR PRESSURE SWITCH
11. SPARK ELECTRODE
12. IGNITION TRANSFORMER
13. AIR SUCTION TUBE
14. PROPORTIONAL VENTURI
15. CIRCULATOR
16. DOMESTIC TEMPERATURE PROBE INLET
17. CONDENSATE COLLECTION SIPHON
18. FLOW METER
19. WATER PRESSURE SWITCH
20. FLOW LIMITER



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HYDRAULIC BOARD

DRAW DEMAND WITH CIRCULATOR ACTIVE AND WITHOUT RECIRCULATION LINE



KEY

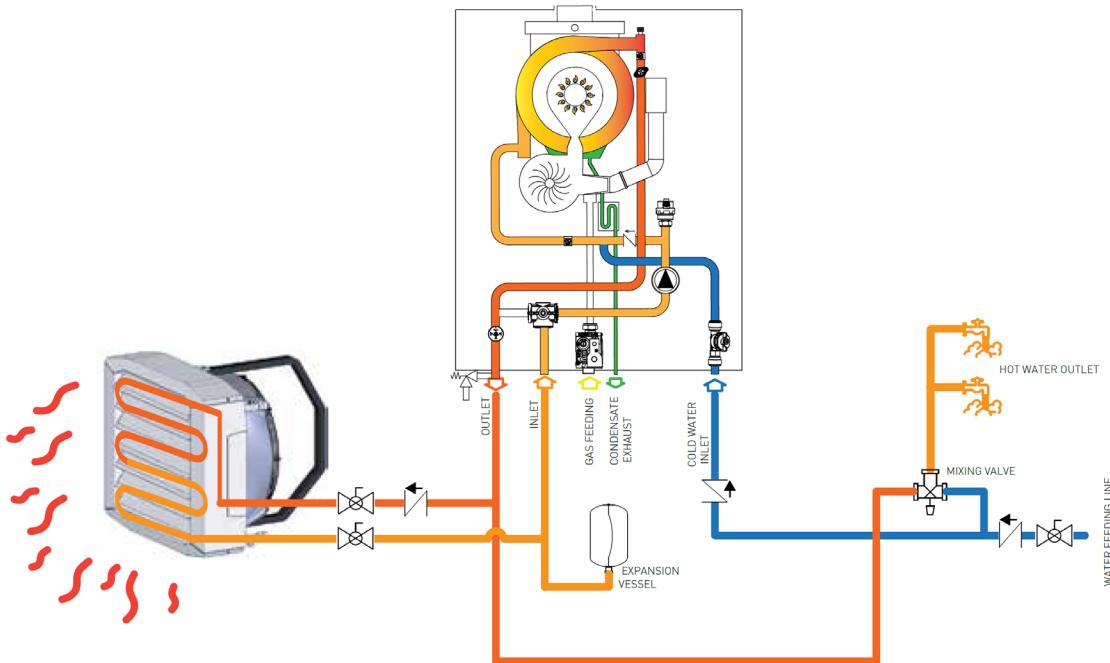
C. DOMESTIC HOT WATER OUTLET
F. COLD WATER INLET
RC. RECIRCULATION MODE
G. GAS INLET
SC. CONDENSATE DRAIN

1. EXHAUST SAFETY HIGH LIMIT SWITCH
2. HEAT EXCHANGER
3. BURNER UNIT
4. COMBUSTION BLOWER
5. DOMESTIC TEMPERATURE PROBE INLET
6. RECIRCULATION PROBE
7. 3-WAY VALVE - RECIRCULATION MODE
8. PRESSURE RELIEF VALVE
9. AIR ELIMINATOR
10. DOMESTIC TEMPERATURE PROBE OUTLET

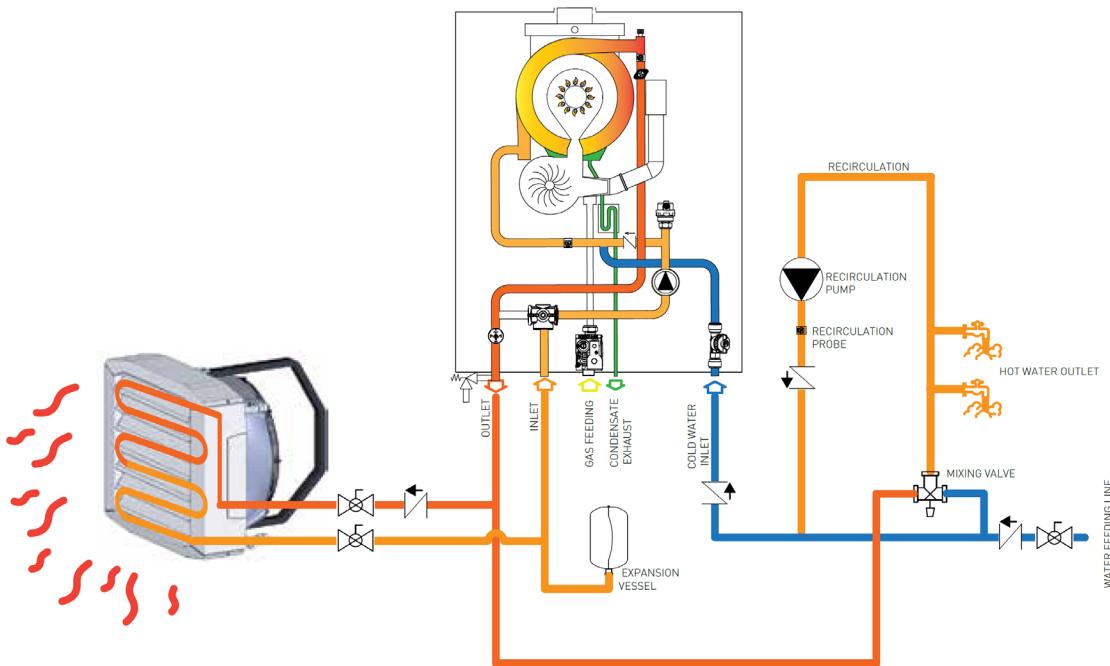
11. WATER TEMPERATURE HIGH LIMIT SWITCH
12. AIR SUCTION TUBE
13. PROPORTIONAL VENTURI
14. CONDENSATE COLLECTION SIPHON
15. CHECK VALVE
16. CIRCULATOR
17. FLOW METER
18. GAS VALVE
19. WATER PRESSURE SWITCH

TYPICAL PIPING LAYOUT

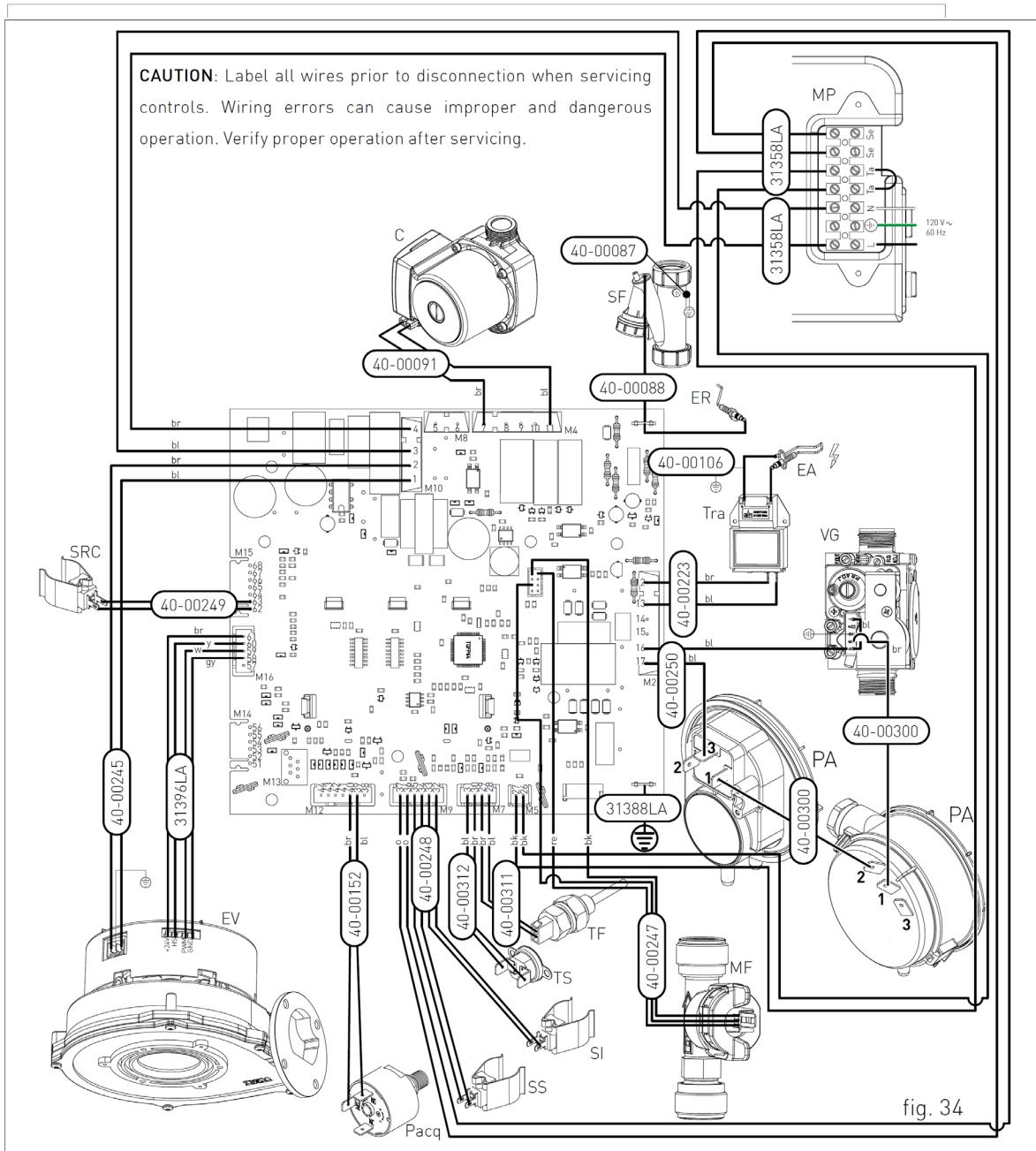
COMBINATION MODE (DHW + HEATING)



COMBINATION MODE (DHW + HEATING) WITH EXTERNAL RECIRCULATION LOOP



WIRING DIAGRAM



ER: IONIZATION ELECTRODE

EA: SPARK ELECTRODE

C: CIRCULATOR

VG: GAS VALVE

TRA: IGNITION TRANSFORMER

TF: EXHAUST SAFETY HIGH LIMIT SWITCH_[102°C]

SRC: RECIRCULATION TEMPERATURE PROBE

RC: DOMESTIC HOT WATER PRE-HEATING DEACTIVATION TIMER

TS: WATER TEMPERATURE HIGH LIMIT SWITCH

MF: FLOW SWITCH

SI: DOMESTIC TEMPERATURE PROBE INLET

EV: COMBUSTION BLOWER

PA: AIR PRESSURE SWITCH

SF: CONDENSATE COLLECTION SIPHON

PACQ: WATER PRESSURE SWITCH

MP: PANEL TERMINAL

L: LINE

N: NEUTRAL

G: GREEN

RE: RED

SE: OUTDOOR TEMPERATURE

TA: ENVIRONMENT THERMOSTAT

BL: BLUE

BR: BROWN

O: ORANGE

Y: YELLOW

W: WHITE

GY: GREY